

CLAIMS

What is claimed is:

- 5 1. A method of forming a vial for use in a level, the method comprising:
 - providing a cylinder having an inner surface defining a cavity;
 - molding a material around the cylinder;
 - machining the inner surface to a desired state; and
 - positioning a bubble in the cavity.
- 10 2. The method of claim 1 wherein the cylinder is molded and has an outer surface, the method further comprising positioning a marker ring on the outer surface of the cylinder such that the material is molded around the marker ring and the marker ring is enclosed by the cylinder and the material.
- 15 3. The method of claim 2 wherein the material is molded around the cylinder and marker ring by:
 - positioning the cylinder and marker ring on a core pin;
 - inserting the core pin into a mold;
 - flowing the material into the mold; and
 - 20 • ejecting the cylinder, marker ring, and material from the mold.
4. The method of claim 3 wherein the bubble is positioned in the cavity by partially filling the cavity with a liquid and enclosing the cavity with an end closure.
- 25 5. The method of claim 1 further comprising putting indicia on the cylinder before the material is molded around the cylinder.
6. The method of claim 1 wherein the cylinder and the material are acrylic.
- 30 7. The method of claim 1 wherein the inner surface is machined such that the cavity is barrel-shaped.

8. In a vial for use with a level, the vial including at least one marker ring, the improvement wherein:

- the vial includes a cylinder having a inner surface defining a cavity;
- the vial includes a sleeve, the sleeve molded around the cylinder; and
- the at least one marker ring is bounded by the cylinder and the sleeve.

9. The vial of claim 8 wherein the cylinder and sleeve are acrylic.

10. The vial of claim 8 wherein the cylinder has an outer surface and the vial includes indicia positioned on the outer surface, the indicia bounded by the cylinder and the sleeve.

11. A vial for use with a level, the vial comprising a cylinder having a inner surface defining a cavity, the cylinder extending from a first end to a second end; and a sleeve, the sleeve molded around the cylinder and extending from the first end to the second end.

12. The vial of claim 11 further comprising a first end closure at the first end and a second end closure at the second end, the vial enclosing a liquid and a bubble.

13. The vial of claim 11 further comprising at least one marker ring or indicia bounded by the cylinder and the sleeve.

14. The vial of claim 13 wherein the at least one marker ring or indicia is hot stamped onto the cylinder.

15. A vial for use with a level, the vial formed by:

- providing a cylinder comprised of a first material and having an inner surface defining a cavity;
- molding a second material around the cylinder;
- machining the inner surface to a desired state; and
- positioning a bubble in the cavity.

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16. The vial of claim 15 wherein the first and second material are the same acrylic material and wherein the cylinder is cooled when the second material is molded around the cylinder.

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17. The vial of claim 16 wherein the cylinder is molded and has an outer surface and at least one marker ring is embedded into the outer surface of the cylinder such that the second material is molded around the at least one marker ring and the marker ring is enclosed by the first material and second material.

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18. The vial of claim 17 wherein the second material is molded around the cylinder and marker ring by:

- positioning the cylinder and marker ring on a core pin;
- inserting the core pin into a mold;
- flowing the second material into the mold; and
- ejecting the cylinder, marker ring, and second material from the mold.

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19. The vial of claim 18 wherein the bubble is positioned in the cavity by partially filling the cavity with a liquid and enclosing the cavity with an end closure.

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20. The vial of claim 1 wherein the inner surface is machined such that the cavity is barrel-shaped.